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ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: DATA PROCESSING DEVICE AND METHOD

(57) Abstract: A device comprising at least one unit with an instruction pipeline processing data in a sequential manner and an array of configurable processing elements, wherein the array is coupled to the instruction pipeline. A method for coupling said unit and said array.

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/006547A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G06F15/82 G06F9/38

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SIEMERS C ET AL: "The >S<puter: a novel microarchitecture model for execution inside superscalar and VLIW processors using reconfigurable hardware" COMPUTER ARCHITECTURE. PROCEEDINGS OF THE AUSTRALASIAN COMPUTER ARCHITECTURE CONFERENCE ACAC, XX, XX, 1998, pages 169-178, XP002126704	1,3-5,7
Y	page 1	2,6
Y	US 2003/056202 A1 (MAY FRANK ET AL) 20 March 2003 (2003-03-20) pages 2,6	2,6
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&amp;" document member of the same patent family

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## INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HAUSER J R ET AL: "Garp: a MIPS processor with a reconfigurable coprocessor" FIELD-PROGRAMMABLE CUSTOM COMPUTING MACHINES, 1997. PROCEEDINGS., THE 5TH ANNUAL IEEE SYMPOSIUM ON NAPA VALLEY, CA, USA 16-18 APRIL 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 16 April 1997 (1997-04-16), pages 12-21, XP010247463 ISBN: 0-8186-8159-4 page 1	7
X	----- WITTIG R D ET AL: "OneChip: an FPGA processor with reconfigurable logic" FPGAS FOR CUSTOM COMPUTING MACHINES, 1996. PROCEEDINGS. IEEE SYMPOSIUM ON NAPA VALLEY, CA, USA 17-19 APRIL 1996, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 17 April 1996 (1996-04-17), pages 126-135, XP010206399 ISBN: 0-8186-7548-9 page 1	1
X	----- KASTRUP B: "Automatic hardware synthesis for a hybrid reconfigurable CPU featuring Philips CPLDs" PROCEEDINGS OF THE PACT WORKSHOP ON RECONFIGURABLE COMPUTING, XX, XX, 1998, pages 5-10, XP002203032 page 1	1
X	----- RAZDAN R ET AL: "A high-performance microarchitecture with hardware-programmable functional units" PROCEEDINGS OF THE ANNUAL INTERNATIONAL SYMPOSIUM ON MICROARCHITECTURE, XX, XX, 30 November 1994 (1994-11-30), pages 172-180, XP002201228 page 1	1
X	----- US 2002/083308 A1 (DE OLIVEIRA KASTRUP PEREIRA BE ET AL) 27 June 2002 (2002-06-27) page 1	1
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A	----- WO 92/01987 A (TEKSTAR SYSTEMS CORP) 6 February 1992 (1992-02-06) page 7, line 34 - page 8, line 2; figure 1 -----	2,6

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2004/006547

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7

The first invention solves the problem of combining an array for processing data with a sequential processor. The special technical feature of the first invention is the coupling of the array to the instruction pipeline of the sequential processor.

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2. claims: 8-9

The second invention solves the problem of enhancing the memory access of an array for processing data. The special technical feature of the second invention is the duplication of input data.

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3. claims: 10-11

The third invention solves the problem of multi-tasking and simultaneous multithreading in an array of data processing elements. The special technical feature of the third invention are processing elements which are reconfigurable at runtime and which are affected by a plurality of configurations, wherein the amount of time allowed for one configuration is limited.

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

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